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AUTHOR Lewis, Michael A.
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ABSTRACT

The booklet is intended to provide practical information on hearing aids for hearing impaired children, their families and teachers. Illustrations are provided to describe the hearing process. The nature of hearing loss is considered in terms of types (conductive, sensori-neural, and mixed), causes, degrees, and educational implications. Four different types of hearing aids are briefly summarized, component parts (microphone, amplifier, receiver, and battery) are described, and ways in which an aid facilitates hearing are noted. Suggestions for hearing aid care touch on cleaning, performing routine "listening checks," and identifying common problems and their causes. A final section lists hints on successful hearing aid use, including a three-phase plan for initial use. (CL)

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The Care and Use of a Child's Hearing Aid

A Practical Guide for Parents, Teachers, and Children

EC 160893

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THE CARE AND USE OF A CHILD'S HEARING AID

A Practical Guide for Parents, Teachers, and Children

Developed By

Michael A. Lewis
Consultant for Hearing Handicapped
Office of Programs for the Handicapped

South Carolina Department of Education

Dr. Charlie G. Williams
State Superintendent of Education

Mr. Sidney B. Cooper, Jr., Deputy Superintendent
Division of Instruction

Dr. Robert S. Black, Director
Office of Programs for the Handicapped

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A Practical Guide for Parents, Teachers, and Children

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THE CARE AND USE OF A CHILD'S HEARING AID
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INTRODUCTION

A hearing impaired child, like all children, depends on a variety of stimuli in his environment to obtain information. Certainly, auditory stimuli, whether in the form of speech or nonspeech sounds, is critical in the hearing impaired child's development. His communication, language development, speech production, social/emotional adjustment, academic achievement, etc. are greatly dependent on the acoustic signals received and processed through the auditory channel.

A hearing aid is an electronic device which amplifies sound. It has definite limitations in its ability to help one hear better, and cannot be expected to restore one's hearing to "normal." It is only a miniature electronic loudspeaker designed to make sounds and words louder, and is never a perfect substitute for a normal hearing ear. It will not necessarily improve speech understanding or production, but will, in most cases, give more awareness of sounds and speech, thereby keeping the child more in touch with what is going on around him.

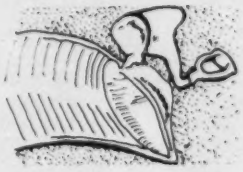
This booklet was developed to show how the ear functions; describe various types, causes, and effects of hearing impairment; discuss types and parts of hearing aids; and offer practical suggestions to parents, teachers, and children for their use and care.

HOW WE HEAR

The system by which your ear converts the energy in sound waves into electrical signals for your brain is enormously complex, and some of the mechanisms are not yet clearly understood. But, in general terms the system works something like this:

The outer ear directs sound waves from the air around you inward through the external auditory canal. The auditory canal terminates at a tightly stretched membrane, the eardrum.

Beyond the eardrum, in the middle ear chamber, are three tiny, linked bones called the malleus (hammer), incus (anvil), and stapes (stirrup). The outer bone, the malleus, is attached to the eardrum. The inner bone, the stapes, ends in a footplate which fits into the oval window, an opening in the wall of the bone housing the inner ear. The center bone, the incus, connects the malleus and the stapes so that when one moves they all move.



The inner ear is filled with fluid, and the lower portion terminates in a delicate spiral structure that is shaped something like a snail. It is called the cochlea.

Inside the cochlea is an arrangement of thousands of tiny specialized cells, each of which is equipped with many microscopic hairs. These hairs are immersed in the fluid which fills the cochlea.

When you hear, sound is transmitted through the ear in the following manner:

- Sound waves enter the ear, travel through the auditory canal, and cause the eardrum to vibrate.

- The vibrations of the eardrum cause the bones in the middle ear to move back and forth like tiny levers. This lever action converts the large motions of the eardrum into the shorter, more forceful motions of the stapes.

- The footplate at the inner end of the stapes moves in and out of the oval window at the same rate that the eardrum is vibrating.

- The movement of the footplate sets up motions in the fluid that fills the cochlea.

- The movement of the fluid causes the hairs immersed in the fluid to move. The movement stimulates the attached cells and sends tiny impulses along the fibers of the auditory nerve to the brain.

- In the brain the impulse is translated into the sensation you know as sound.

THE NATURE OF HEARING LOSS

A hearing impairment may be classified as conductive, sensori-neural, or mixed. The degree of hearing loss may range from mild to profound. However, it should be noted that the type and degree of hearing loss may not necessarily be reliable indicators of the extent to which the child's educational performance may be affected. Many additional factors (e.g., date of onset, intelligence quotient, use of amplification, early intervention, motivation, concomitant handicapping conditions, etc.) also may affect significantly the child's educational performance and achievement.

Types and Causes of Hearing Loss

A hearing impairment may be the result of a variety of illnesses, disorders, and other etiologies. Conductive losses (i.e., the interference of the conduction of sound through the ear) result from such disorders as otitis media (middle ear fluid), impacted cerumen (wax), fixation/disarticulation of the middle ear bones, etc., and are usually corrected through medical or surgical intervention. Such losses tend to fluctuate in degree and may affect a child's ability to hear speech loudly enough in the classroom environment. Sensori-neural hearing losses (i.e., the interference of sound being received/transmitted through the inner ear and auditory nerve) are the result of congenital disorders, birth trauma, ototoxic drugs, childhood diseases with high fevers (viruses, meningitis, etc.), loud noise exposure, etc. and cannot be corrected through medical or surgical intervention. Such hearing losses affect a child's ability to hear speech both loudly and clearly enough, and may or may not be helped through the use of a hearing aid. Mixed hearing losses are the combination of both conductive and sensori-neural disorders, and may be partially corrected through medical treatment or surgery.

Degrees and Effects of Hearing Loss

In addition to the type of hearing loss present, the degree of hearing loss also is a major factor in determining its significance. The following table is provided which suggests relationships between hearing levels (in decibels) and probable educational implications.

Hearing Level in dB	Handicap	Educational Implications
0 - 20	Normal	Usually of no educational significance unless in the upper range of normal.
21 - 35	Mild loss	Will have difficulty hearing faint speech, and in the classroom probably will benefit from preferential seating and the use of amplification. May show a slight verbal deficit.
36 - 55	Moderate loss	Has difficulty understanding conversational speech; probably will benefit from a hearing aid, auditory training, speech and language intervention, and preferential seating.
56 - 70	Moderately-severe loss	Has great difficulty following classroom discussions without hearing aid; needs all of the above services and may benefit from special education intervention in either a resource room or a self-contained class for the hearing impaired; emotional and social problems are frequent.
71 - 90	Severe loss	Might understand shouted or amplified speech, but this will depend upon other factors as type of impairment, etc.; may identify environmental noises and vowels, but not consonants; needs special education intervention, probably in a self-contained class for the

		hearing impaired; needs amplification and supportive speech and language services; usually shows marked educational retardation and social/emotional problems.
91 - plus	Profound loss	May hear some loud sounds, but does not rely on hearing as a primary channel for communication; generally does not understand speech, even amplified; needs special education intervention in a self-contained class for the hearing impaired; may benefit from a program in total communication; needs amplification; congenitally and prelingually deaf may show severe educational retardation and emotional underdevelopment.

1. Average of hearing levels for 500, 1000, 2000 Hz.

HEARING AIDS: HOW THEY WORK

If a hearing disorder is discovered early in a child, the chances are good that a solution can be found to help overcome this potential handicapping condition. Today, even the very youngest children can receive special educational assistance and be fitted with hearing aids with results that are often dramatic. Although a hearing aid does not compensate totally for the child's hearing loss, it frequently can restore many sounds that are critical in the development of a child's speech and language.

Hearing aids come in many types, designs, and styles. Some are simple instruments which do a straightforward job of amplification; others provide a variety of special features such as a telephone pickup and adjustable tone and volume controls. They range in output from tiny in-the-ear models, suitable for people with mild to moderately-severe impairments, to powerful body-worn aids for people with severe to profound impairments.

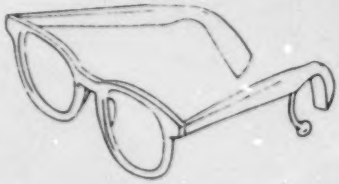
Types of Hearing Aids

There is no single hearing aid suitable for all types of hearing loss. The type of aid most suitable depends on the nature and extent of the hearing loss. There are four basic types of hearing aids.

1. The BODY aid has a large microphone, amplifier, and power supply in a case. It is attached by a cord to the receiver. The receiver is in turn attached to the earmold which fits into the ear. The body aid can be worn in a pocket or in a harness on the front of the chest. It is very powerful and is suitable for children with severe or profound hearing losses. In some models a variable selection control enables you to strengthen or diminish high pitched or low pitched tones as necessary.

2. The EAR-LEVEL (Behind-the-Ear) aid is a small unit which fits snugly behind the ear. The microphone, amplifier, and receiver are in one unit connected to the earmold by a short plastic tube. This type of aid has been improved over the past several years, and can now be used for losses ranging from mild to severe. Some models have a tone control as well as a volume control, and some come equipped with a telephone pickup device.

3. The EYEGLASS type of hearing aid is similar to the ear-level model except that the aid is built into an eyeglass frame. It is suitable for mild to moderate hearing losses. One major disadvantage of this type of hearing aid is that if the aid needs repairing, the student will lose the use of both his glasses and hearing aid.



4. The IN-THE-EAR aid fits directly into the ear, and all the components are housed in a single small unit. These aids are generally effective in cases of mild hearing losses. Due to its size, the component parts are not capable of meeting the needs of most severely hearing impaired students.

Parts of a Hearing Aid

In order for the child to learn to use his hearing aid effectively, it is essential that his parents and teachers assist him in every way possible. Before the parent or teacher will be able to assist the child, it is necessary for him to be able to recognize the different parts of the aid and to know what the different parts do. Basically, all hearing aids are composed of four different parts: (1) a microphone, (2) an amplifier, (3) a receiver, and (4) a battery.

1. The MICROPHONE is the part of the hearing aid that converts sound waves into electrical signals. On a body type hearing aid, it will be located under an opening on the front or top of the case. The aid should be worn with the microphone facing away from the body. Remember that clothing that rubs the case of the hearing aid makes noise; hearing is best when the microphone is located at the top of the case facing forward.

2. The AMPLIFIER is the part of the hearing aid which amplifies (or makes louder) the electrical signal that the microphone produces when a sound wave is detected. Included as a part of the amplifier may be:

a. The On-Off Switch -This may be a separate control switch or, in some aids, may be part of the volume control.

b. The Volume Control -This is a wheel which can be turned to increase or decrease the loudness of the sound. Some volume controls are numbered to assist in setting the loudness level; others can be marked with finger nail polish at the most comfortable listening level for the child.

c. The Tone Control - This switch, on the outside of some hearing aids, can be used to change the tone of the sound coming from the aid from high to low frequencies. The position at which speech seems most understandable should be selected when the aid is obtained (if possible) and left in that position when in use.

d. The Microphone/Telephone Switch - This switch, on the outside of some hearing aids, enables the user to block out interfering background noises when using the telephone. When the switch is in the position marked telephone, the microphone ceases to operate as a part of the hearing aid. Rather, a small coil of wire inside the aid picks up the sound from the telephone. When the aid is in general use this switch should not be in the position marked telephone; leave it in the position marked microphone. The control is usually marked with an M (microphone), T (telephone), and O (off).

3. The RECEIVER is the part of the hearing aid which converts the amplified electrical signal back into a sound wave. Body type hearing aids have external receivers which are connected to the amplifier by means of a wire cord. Behind-the-ear type hearing aids have internal receivers and do not require cords. The sound from the receiver is channeled into the ear canal by means of an EARMOLD which must be custom made for each individual.

4. The BATTERY supplies the power which operates the aid. When the battery becomes weak, the sound will be weak and sometimes noisy. The battery fits into the case in a certain way. THE TERMINAL MARKED (+) MUST BE ALIGNED WITH THE CORRESPONDING (+) MARK IN THE BATTERY COMPARTMENT. If it is put in backward, the hearing aid will not work. IT IS RECOMMENDED THAT THE BATTERY BE TAKEN OUT OF THE HEARING AID WHEN THE AID WILL NOT BE WORN FOR SEVERAL HOURS. The leaking fluid from a dead or weak battery can cause serious damage to the hearing aid. Most hearing aid batteries are 1.4 or 1.5 volts and come in two forms. The cylinder form is designed for body aids; the flat, disk shape battery is designed for ear-level, eyeglass, and in-the-ear aids.

HOW A HEARING AID HELPS

Some children are born with defective hearing. Others may develop a hearing impairment through illness or an accident, but in either case the earlier the diagnosis can be made, the better. Lack of hearing can interfere with a child's ability to learn speech and language. Speech develops as a direct result of hearing, and the child whose hearing is impaired usually has difficulty learning to speak. Worse, he has difficulty learning the meaning of words and acquiring a vocabulary.

It is important to realize that a hearing aid has definite limitations. A hearing aid is a man-made electronic device and, therefore, cannot be expected to provide "normal" hearing. Very simply, the hearing aid can make louder the sounds and words which are otherwise too faint to hear. It is a miniature loudspeaker and cannot make words any clearer than the capacity of your own ears. If the resolving power of an ear is damaged, i.e., the ability to transmit speech clearly, then speech amplified by a hearing aid will not sound clear. This situation is especially true for children who have damage to their inner ears. A problem in speech clarity definitely limits the benefit received from a hearing aid, but does not rule out successful hearing aid use if the child, parents, and teachers are aware of this limitation.

TAKING CARE OF A CHILD'S HEARING AID

Although hearing aids have been designed and built to withstand normal wear and use, excessive rough handling and neglect often can create improper functioning of the aid. When this happens, the child may not be receiving the greatly needed amplification he/she requires for effective communication. To help minimize needless breakdowns, care should be given to insure that the hearing aid is properly maintained.

Cleaning and Care of a Child's Hearing Aid

For the hearing aid to function properly, it must be kept clean and dry. The following checklist may be helpful.

- Earmold(s). The earmold(s) should be washed regularly with mildly soapy luke-warm water. Any wax in the canal of the earmold should be removed either by washing or with a pipe cleaner. Be sure the earmold and tubing are thoroughly dry before reattaching to the hearing aid.

- Tubing. The tubing connecting the hearing aid to the earmold should be checked regularly for any cracks or splits. Cracked tubing can cause feedback (hearing aid squeal), and should be replaced by the hearing aid distributor (i.e., audiologist).

- Microphone Screen. The microphone screen on body type hearing aids can be cleaned with a small soft brush.

- Wet Hearing Aids. If the hearing aid gets wet it should be dried immediately. This can be done by using cool air from a hair dryer. The aid then should be placed overnight in a dehumidifier bag. If a listening check reveals distortion, the aid should be taken to an audiologist to be examined.

- Batteries. Batteries should be tested every day with a battery checker. A weak battery should be replaced immediately. Corrosion on battery terminals can be cleaned with a soft dry cloth or the tip of a pencil eraser. Always use the proper type of battery in the hearing aid, and make sure the battery is inserted properly into the battery compartment. If at any time the hearing aid volume control has to be turned to "full on" to get enough amplification, replace the battery with a new one. Do not rotate batteries. Use one battery until it is worn out, then discard it and replace it with a fresh battery. Do not save old worn batteries as spares. Buy only a few batteries at a time, and keep a spare battery at all times. Store the extra batteries in a

cool, dry place. The crisper of a refrigerator is an excellent place to store batteries.

- Casing/Controls. The casing of the hearing aid should be cleaned occasionally with a soft dry cloth. The controls should be kept free from debris with a small soft brush. Avoid jarring the hearing aid and/or external receiver (on body aids).

- Storing Overnight. The aid should be kept in a cool, dry place when not in use. Excessive heat will cause damage. Store the aid in a dehumidifier bag overnight to remove moisture which have accumulated during the day. The batteries should always be removed at night or any other time the aid will not be in use for several hours.

Giving a "Listening Check" to a Child's Hearing Aid

A LISTENING CHECK KIT should be obtained and used by teachers, speech therapists, parents, and others who are responsible for monitoring the functioning of a child's hearing aid. Pre-packaged kits are available or a kit can be individually assembled consisting of the follow items:

- Battery Checker (Pocket Type)
- Dehumidifier Bag (i.e., Dri-Aid)
- Pipe Cleaners
- Typewriter Eraser Pencil (with brush)
- Extra Supply of Batteries
- Listening Stethoscope
- Cetylcide Earmold Spray

"Listening checks" should be routinely administered utilizing the following procedure:

1. Use a listening stethoscope or your own individual ear mold if you have one.

2. Check the battery to see that it is in correctly; clean battery terminals with an eraser, if necessary. In ear level aids, terminals should be cleaned by the hearing aid distributor.

3. Establish a comfortable listening level for each hearing aid and listen daily at this volume setting. If the aid sounds weak, insert a new battery if one is available. If volume is still low, contact the hearing aid distributor.

4. Set controls:

   A. "On/Off" switch in "Off" position.
   B. Volume Control at lowest setting.
   C. Switch in "M" or microphone position.
   D. Tone control in setting most frequently used.

5. Place the receiver to your ear. Cover the receiver with the palm of your hand and hold the main part of the hearing aid away from your ear to prevent feedback.

6. Turn the hearing aid "On." Turn the volume control wheel up and down slowly, listening for scratchiness or dead spots. The volume control should neither be excessively loose, nor bind against the case.

7. Turn the "On/Off" switch back and forth to check for intermittent sound or loose contacts.

8. Establish a comfortable listening level.

9. For body aids roll the cord back and forth between the fingers to check for intermittent signals. With ear level aids, check the plastic tubing for possible stiffness, pinholes, or cracks.

10. Check the firmness of cord connections.

11. Gently tap the hearing aid on all sides to check for a reduction of power or loose connections. Check for loose screws in the case.

12. With the aid in the "Off" position and the receiver out of your ear, place your thumb firmly over the opening in the receiver. Turn the hearing aid on and turn the volume all the way up. Listen for a soft whistling sound from the hearing aid case or from the receiver. With ear level aids, put your thumb firmly over the opening in the ear mold.

13. Check the earmold for cleanliness. Clean if necessary. It is suggested that a weekly classroom project involve cleaning earmolds. In this way the children can learn how to take care of their molds and transfer this knowledge to their home. Pick one time a week to thoroughly clean the molds by soaking them in warm soapy water for about five minutes. Rinse them with clear water and let them dry on a paper towel until all the water is out of the canal. A pipe-cleaner can be used to dry and to clean the bore of the mold. Do not use the mold until it is completely dry.

Trouble Shooting Guide in Checking a Child's Hearing Aid

The child's hearing aid should be given a "listening check" every morning before it is put on the child. Listen for scratchy sounds, dead spots, or distorted sound. Check the cord connections to see that they are firm. Tap the aid gently to check for loose connections. The guide below may help you identify problems/causes.

COMMON HEARING AID PROBLEMS AND SOME OF THEIR CAUSES

PROBLEM	CAUSE
1. Weak Sound	1. Weak battery or wrong type battery. 2. Wrong tone control or volume control setting. 3. Microphone facing body. 4. Internal damage.
2. No Sound	1. Dead battery or battery inserted backward. 2. Mic-Tel switch in the telephone position. 3. Loose or corroded contacts in battery compartment.

		4. Defective cord. 5. Earmold clogged with wax.
3.	Sound Goes On and Off	1. Corrosion on battery terminals. 2. Loose contacts in battery compartment. 3. Defective cord. 4. Damaged receiver.
4.	Acoustic Feedback (Whistles)	1. Volume turned too high. 2. Earmold too loose, needs new earmold. 3. Aid too close to receiver. 4. Poor fit between earmold and receiver, needs plastic washer. 5. Damaged receiver. 6. Wax in earmold.
5.	Distortion Poor Tone	1. Weak battery. 2. Microphone opening covered or clogged. 3. Defective receiver. 4. Volume too high. 5. Moisture. 6. Wrong tone setting.
6.	Noisy	1. Weak battery or corroded terminals. 2. Loose hearing aid garment. 3. Corroded cord contacts. 4. Stiff cord.

HINTS ON SUCCESSFUL HEARING AID USE

For successful adjustment to a hearing aid, parents and teachers can assist the child through a variety of activities. The following suggestions may be helpful.

Initial Adjustment to the Hearing Aid

When a child first receives a hearing aid he/she must become accustomed to the increased loudness of sound and he must learn to interpret what he hears. Some children may adapt to the use of an aid very rapidly, others may take several months. The first time the aid is put on the child at home, turn the volume up gradually until the child can hear ordinary conversation at two or three feet. It is very important to avoid a sudden increase in loudness, for if the child is frightened by his first

experience with the aid, he may refuse to wear it again. The following plan may be used to assist the child in learning to use his aid during its initial use. Each phase may last from one to several weeks.

Phase One

- Have the child wear the aid only in the quiet of home surroundings.
- Let him listen to only one person talking at a time. You might read a story to the child. Never shout or raise your voice. Speak naturally.
- Urge him to watch you while you talk.
- Tell him to interrupt you if he misses a word or sentence.
- Let him listen to music on the radio or phonograph.
- The aid should be worn for only about an hour at a time, or in some cases, several short periods are better than one long period. As the child becomes used to the instrument, the time of wearing the aid can be extended.

Phase Two

- Increase listening distances.
- Let the child listen to a number of different voices in group conversations.
- Let him identify who is talking and what they are talking about. Increase the number of people in the groups gradually.
- Familiarize him with background noises he never knew existed; tick of clock, dog scratching at door, rattle of dishes, telephone and door bell rings. This too, can become a game in seeing how far he can hear these sounds.

Phase Three

- Wear the aid outside of the home and in the classroom for short periods of time. When wearing the aid to school the first day, let the other children examine it and try it on under the teacher's supervision. A hearing aid is no more conspicuous than glasses or braces on teeth.
- By this time, the child should be encouraged to turn the volume down if he finds himself in an uncomfortably noisy situation.
- Listen to talking on the radio.
- When in an auditorium, do not sit under the balcony but four or six rows from the stage; in a movie eight to twelve rows from the screen.
- Let the child experiment to find the best seat for him.
- The child will probably not want to wear his hearing aid during active play, but the more he wears it, the better, for if your child needs hearing help, he needs it all the time, not just for learning in school.
- Learning goes on everywhere. However, never force the child to wear his aid. Don't "nag" him about it. Wearing the aid must be a pleasant experience.

- A child with impaired hearing may need speech training.

- Lip-reading is a must for it is a first aid for any type of hearing loss, not a last resort.

- What a hearing aid will do for your child depends upon the extent of his loss, type of loss, the child's intelligence, personality and the training he received in using it. A hearing aid will not give the child perfect hearing, but it will improve his hearing.

Hearing Aid Use in the Classroom

The hearing impaired child often requires special considerations in deriving maximum benefit from his hearing aid at school. The following suggestions may be of assistance to teachers in providing this needed help.

- After the child has received appropriate orientation to the hearing aid leading to its acceptance, he should be required to wear the aid AT ALL TIMES, unless he has a discharging or injured ear. If the hearing aid is out of order, ask the hearing aid distributor to supply him with a "loaner" while his own instrument is being repaired.

- The teacher must understand what the hearing aid can and cannot do for the child. The hearing aid only makes sounds louder. Through the hearing aid, much as over the telephone, sounds seem "different". The aid does not hear for the child nor does it correct his speech.

- The hearing aid also has its limitations. Therefore the child should be within close proximity of all hearing situations. Allow him to assume a position in the room which best enables him to derive maximum benefit from his hearing aid.

- Be patient with the child. The hearing aid has become "a part of the child" and this is frequently achieved only after a long period of adjustment.

- Make certain that the child has an extra battery on hand in school. He should be allowed to leave the room if he so desires to change the battery as soon as his aid goes "dead". The teacher of very young children should acquire the necessary information which will enable her to render "first aid" (changing batteries, inserting cords, etc.) to the hearing aid. The itinerant teacher of the hearing impaired, speech therapist, or local hearing aid distributor can provide this information.

- Accept the child with his hearing aid and help others to do so. Thus we help him overcome whatever feelings he may have against accepting the hearing aid based upon his impression of being "different" from other children. This may be accomplished by asking the child to demonstrate the use of the hearing aid to his classmates early in the school year. He can point out how the aid is turned on and off, how the volume and tone controls are adjusted, the function of both the microphone and the receiver, and how batteries are replaced. The hearing aid can be compared to a radio. In class groups beyond the primary grades, such a demonstration can be part of a science demonstration dealing with electronics. Such participation in the demonstration on the part of the hearing impaired child does much toward helping him achieve status among the group.

- The teacher should understand the effect background noise in the classroom may have on the child wearing a hearing aid. Classroom sounds such as pounding a desk, slamming a door, and dropping books frequently startle the child wearing a hearing aid and makes it difficult for him to concentrate on the spoken voice and to interpret speech.

- The child should know how to manage his hearing aid, but may not in some cases. If the aid starts whistling or squealing (due to feedback) he may not hear it. This will likely annoy others in the classroom. The whistling or feedback is due to sound leaking from the earmold and coming in contact with a sound-reflecting surface. It can usually be corrected by adjusting the earmold so that it is positioned and fits more firmly into the ear, or by turning down the volume control slightly. If this fails to eliminate the whistling the parents should call on the hearing aid distributor to solve the feedback problem.

- Parents of children using hearing aids should not hesitate to call on audiologists/distributors for needed service. The user is entitled to service and hearing aid distributors acknowledge this. If the child's hearing seems poor or appears to be deteriorating with the use of the aid, the parents should be encouraged to call on the distributor to have the instrument checked. A check will be made for possible poor contacts, weak microphones, broken cords, run down batteries, etc.